

HARDER AUTO TRUCK



HARDER AUTO-TRUCK CO.
CHICAGO

HARDER AUTO TRUCK



HARDER AUTO-TRUCK COMPANY

Main Office and Sales Department:
Corner Fortieth St. and Calumet Ave.
Factory: Sixty-Second and La Salle Sts.
Telephone: Douglas 3800. .CHICAGO

1913



MAIN OFFICE FROM ENTRANCE



PRESIDENT'S OFFICE



THE PRESIDENT'S LETTER

AS PRESIDENT of the Harder's Fire Proof Storage & Van Co., I decided, seven years ago, that in order to keep abreast of the times, other means of transportation than the horse were required. Auto trucks were added to our equipment.

After a fair and thorough trial it was apparent that the trucks we were using, and those generally used, were not built strong enough. Manufacturers of trucks offered no solution.

Strength being the main requirement, I decided to build trucks that would do our work, and stand the unusual strains of the heavy loads, and rough country roads, met with in our service.

Having had thirty years' experience in manufacturing machinery and knowing the needs of transportation from our everyday experience, I coupled these with the best mechanical and engineering skill possible to obtain and after exhaustive tests perfected a truck that could do our work and which eliminated the troubles truck users were encountering.

Strength being the important factor, my orders to factory superintendents and engineers has always been, make them stronger than their capacity requires, stronger than necessary.

After repeated and urgent requests from others to build trucks for them after the design of the HARDER AUTO TRUCK, I decided in 1910 to enter the Auto Truck business.

Because of the truck's success in the past and the many improvements for this year, I have no hesitancy in offering the 1913 Harder Auto Truck to the commercial world and will guarantee it to merit the investment.

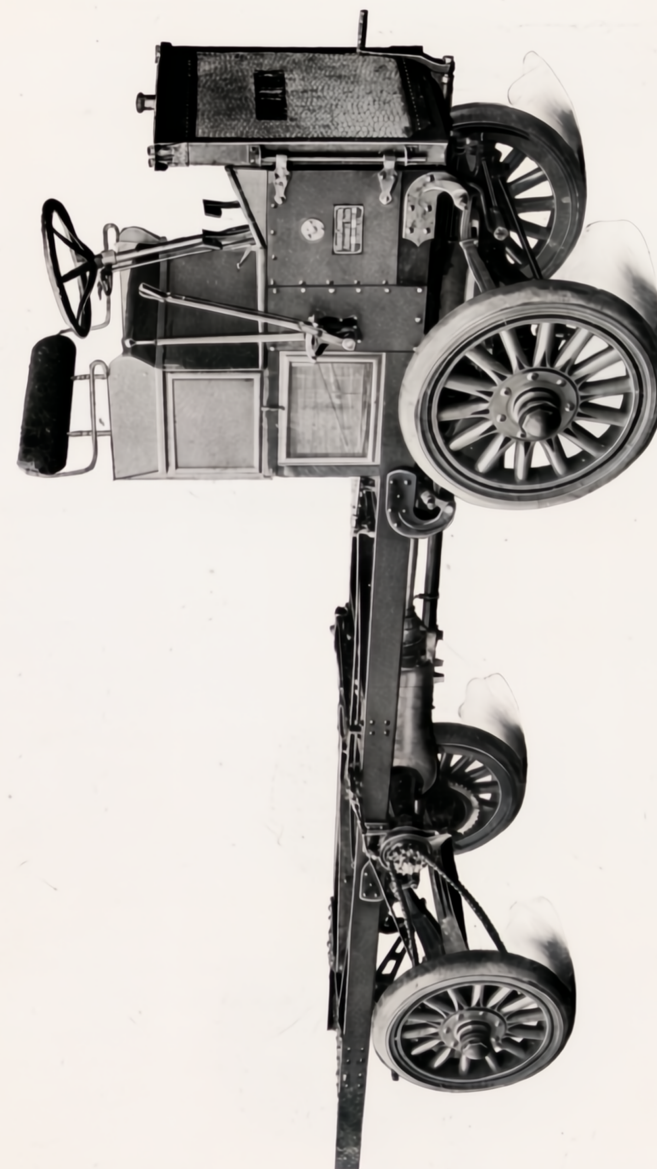
CHARLES C. HARDER,
President Harder Auto-Truck Co.



WHY HARDER AUTO-TRUCKS EXCELL

- 1 Service.
- 2 Perfect in every detail.
- 3 Equalizing Traction Bar, distributing load equally on all wheels in any position, insuring perfect traction, and is as essential to an Automobile as a King Bolt is to a wagon.
- 4 Material and workmanship the best.
- 5 Parts immediately accessible.
- 6 Durability of all parts.
- 7 Elimination of defects and imperfections.
- 8 Design simple.
- 9 Adapted for long hauls on any roads.
- 10 "V" Bracing of frame insuring permanent alignment of machinery under abnormal conditions.
- 11 Wheels doubly strengthened with extra large spokes, and extra thick felloes, eliminating racking of wheels under heaviest strains.
- 12 Load distributed four-sevenths rear, and three-sevenths on front.
- 13 Steering wheel worm and counter-worm type, insuring control at all times.
- 14 Construction throughout extra heavy, but avoiding unnecessary weight.
- 15 Brakes powerful and quick acting, operating at three points simultaneously,—Jackshaft, Drive Shaft, and rear wheels; meaning safety.
- 16 Duplicate parts always on hand in case of accident.

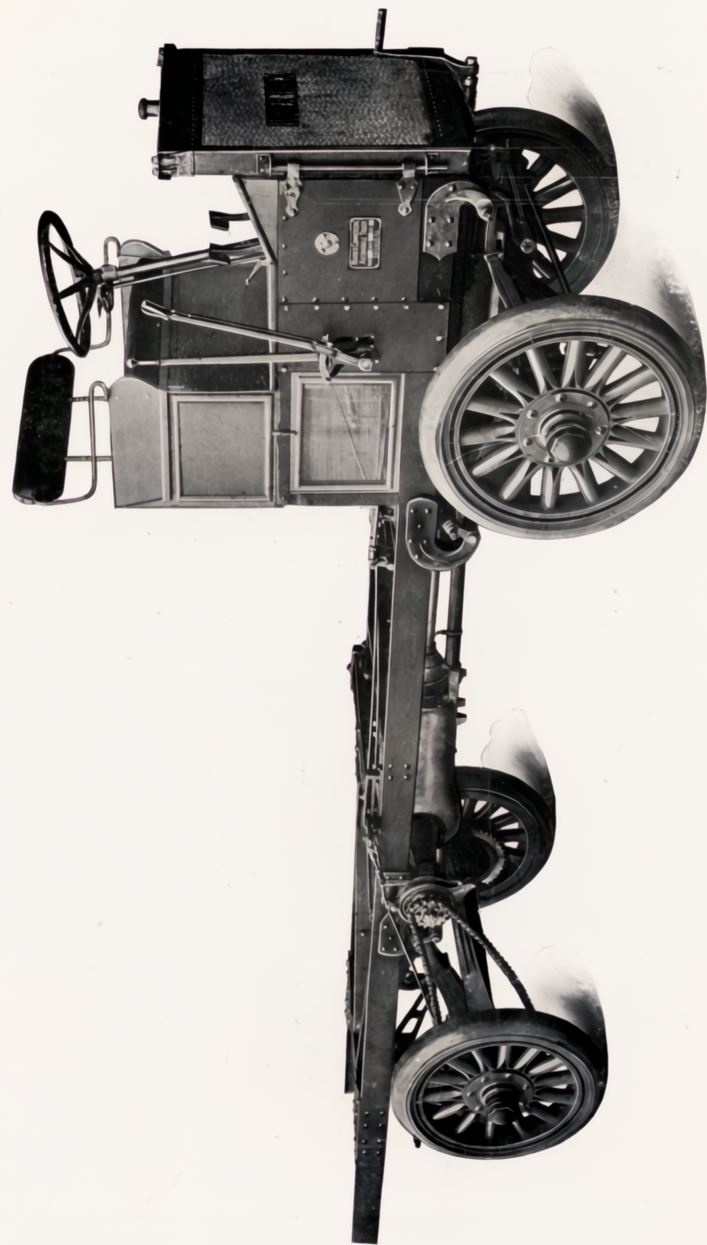
BUILT IN CHICAGO



TYPE 50

MODEL C

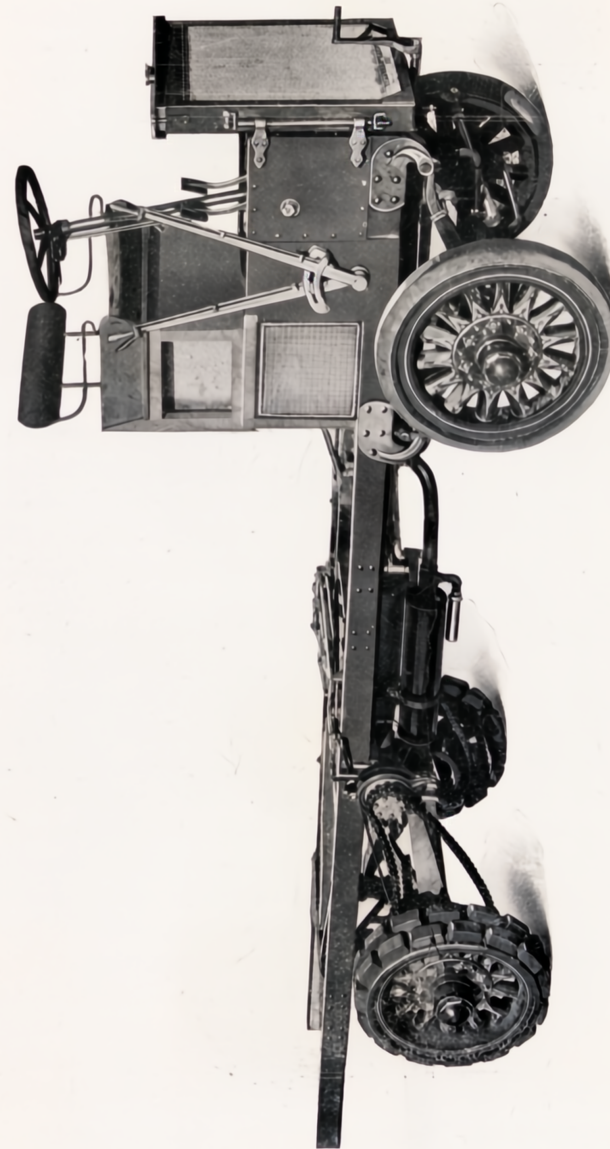
1913 Harder One and One-Half-Ton Gasoline Truck Chassis
 Price, Engine under seat, \$2,250.00 F. O. B. Chicago, Illinois
 Price, Engine under Hood, \$2,500.00 F. O. B. Chicago, Illinois



MODEL C—SPECIAL

TYPE 87

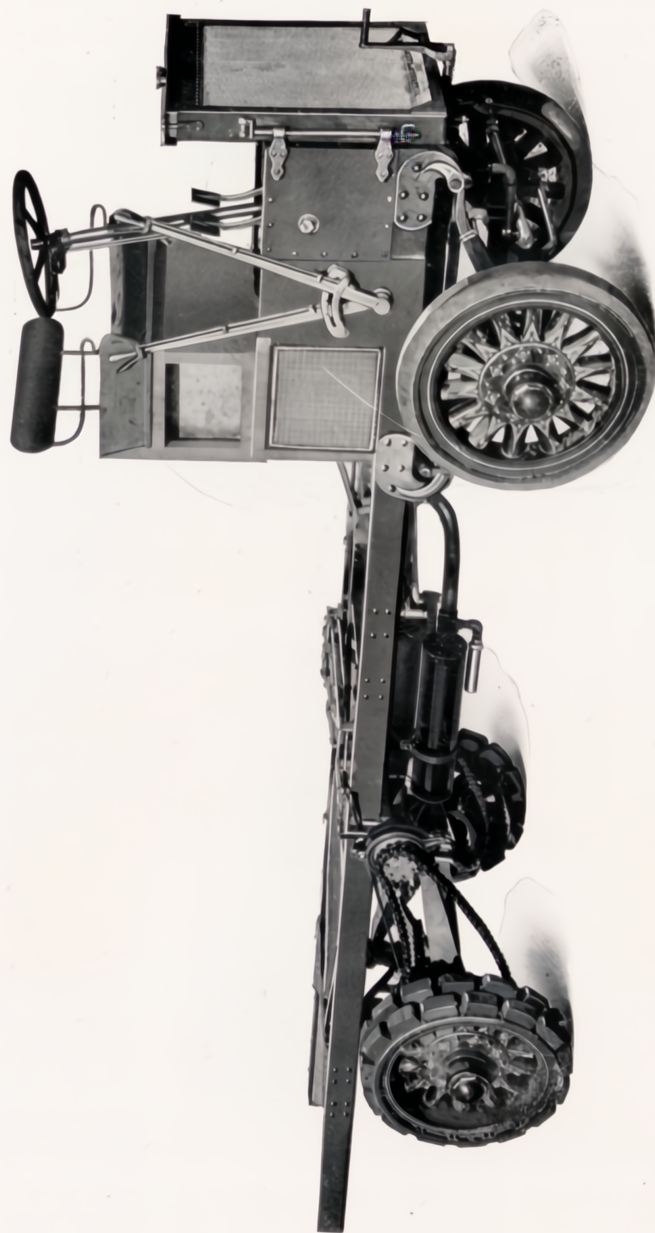
1913 Harder Two-Ton Gasoline Truck Chassis
 Price, Engine under seat, \$2,750.00 F. O. B. Chicago, Illinois
 Price, Engine under Hood, \$3,000.00 F. O. B. Chicago, Illinois



MODEL B

TYPE 90

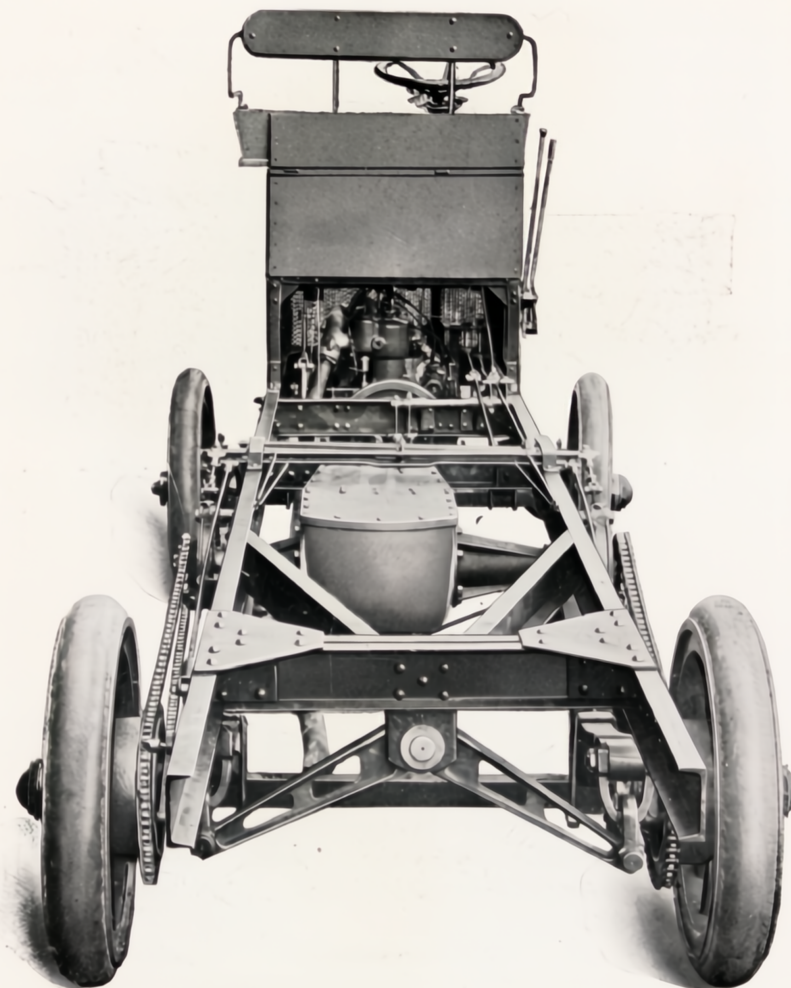
1913 Harder Three-Ton Gasoline Truck Chassis
 Price, Engine under Seat, \$3,400.00 F. O. B. Chicago, Illinois
 Price, Engine under Hood, \$3,650.00 F. O. B. Chicago, Illinois



MODEL A

TYPE 59

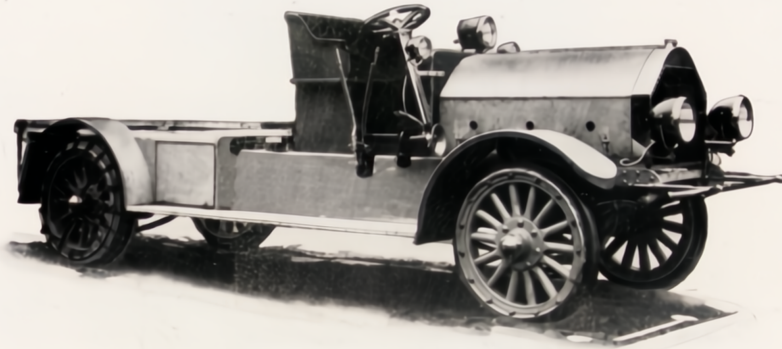
1913 Harder Five-Ton Gasoline Truck Chassis
Price, \$4,400.00 F. O. B. Chicago, Illinois



TOP VIEW, MODEL C—Special Two-Ton Chassis

Above illustration shows the long easily-flexed springs and method of suspending same from equalizer traction bar.

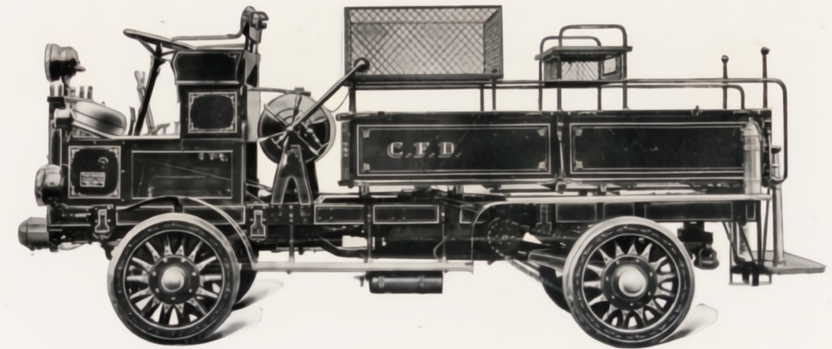
This novel construction and arrangement is particularly designed and adapted for the Light Capacity Harder Auto Truck.



ENGINE UNDER HOOD TYPE—Same Price as "Engine Under Seat Type"



COMBINATION CHEMICAL AND HOSE WAGON —
Type 1913. List Price \$7,000.00



HARDER COMBINATION CHEMICAL AND HOSE TRUCK
TYPE USED BY CHICAGO FIRE DEPARTMENT
TYPE 1911. LIST PRICE, \$5,500.00



ONE ORDER OF SEVEN HARDER COMBINATION CHEMICAL AND HOSE TRUCKS FURNISHED TO THE CITY OF CHICAGO FIRE DEPARTMENT



EAU CLAIRE, WIS., COMBINATION CHEMICAL AND HOSE TRUCK



COMBINATION CHEMICAL AND HOSE TRUCK — List Price \$6,500.00



POLICE PATROL — List Price \$4,000.00



CHICAGO FIRE DEPARTMENT SQUAD WAGON —
List Price \$7,500.00



1912 MODEL — Harder Three-Ton Truck



1912 MODEL B—Harder Three-Ton Truck



1912 MODEL B — Harder Three-Ton Truck



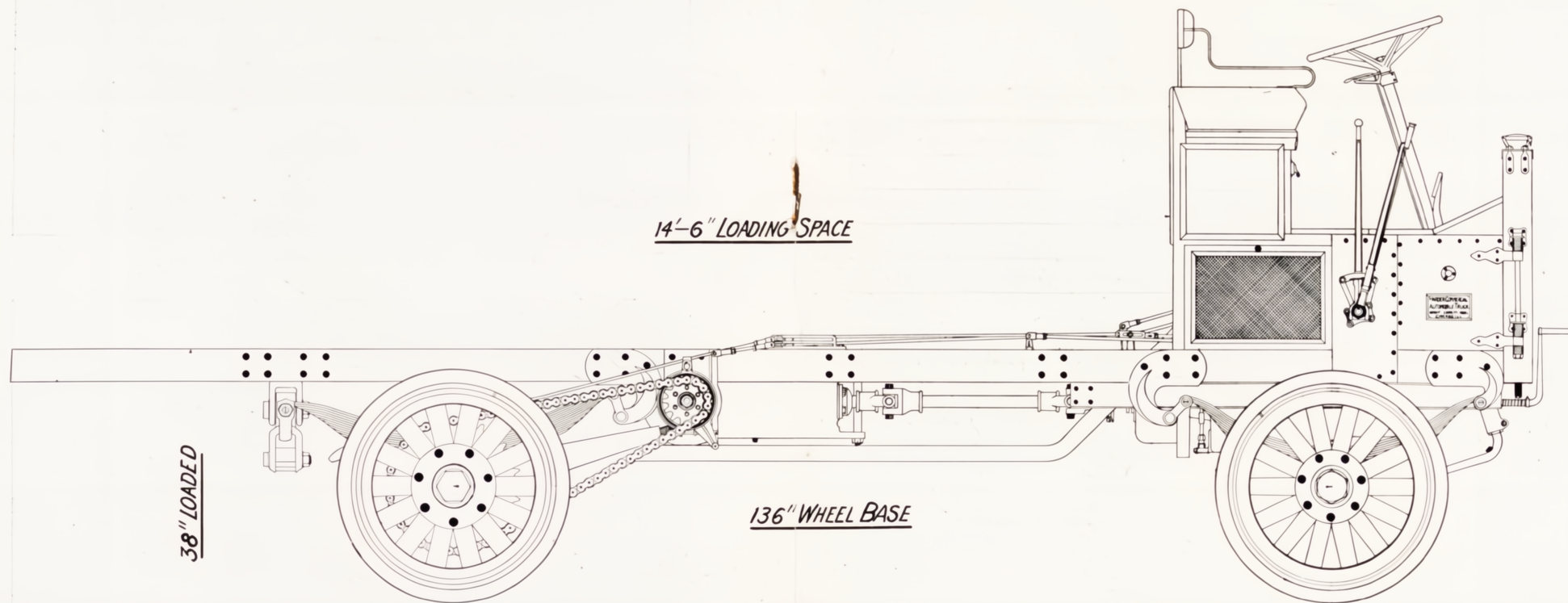
1912 MODEL C SPECIAL — Harder Two-Ton Truck



14'-6" LOADING SPACE

38" LOADED

136" WHEEL BASE





SPECIFICATIONS

	ONE-AND-ONE-HALF-TON	TWO-TON
AXLES	Front 2x2 $\frac{1}{4}$, Rear 2 $\frac{1}{4}$ Square.	Front 2x2 $\frac{1}{4}$, Rear 2 $\frac{1}{2}$ Square.
BRAKES	Foot Brake External Contracting on jackshaft. Emergency Brake Internal, expanding in rear Sprocket Drum.	Foot Brake External Contracting on jackshaft. Emergency Brake Internal, expanding in rear Sprocket Drum.
CAPACITY	3000 Pounds.	4000 Pounds.
CARBURETOR ...	Shebler or Stromberg.	Shebler or Stromberg.
CLUTCH	Multiple Cone.	Multiple Cone.
COOLING	Vertical Flat Tube Radiator, Centrifugal Pump.	Vertical Flat Tube Radiator, Centrifugal Pump.
CONTROL (Motor)	On Steering Column. Foot Accelerator.	On Steering Column. Foot Accelerator.
DIFFERENTIAL ..	Integral with Transmission. Spur Type.	Integral with Transmission. Spur Type.
DRIVE	Double Side Chains.	Double Side Chains.
CHASSIS WEIGHT	4750 Pounds.	5000 Pounds.
EQUIPMENT	Oil Dash and Tail Lamp. Set Tools.	Oil Dash and Tail Lamp. Set Tools.
FRAME	Channel Steel. 4 in. 6 $\frac{1}{4}$ lbs. to ft.	Channel Steel. 4 in. 7 $\frac{1}{2}$ lbs. to ft.
GASOLINE TANK CAPACITY	18 Gallons.	18 Gallons.
GEAR (Steering)....	Worm and Counterworm, 18" Wheel.	Worm and Counterworm, 18" Wheel.
IGNITION	Magneto driven from pump shaft.	Magneto driven from pump shaft.
LUBRICATION ...	Force feed to all main bearings, connecting rods, Piston and Cam Shaft by Splash.	Force feed to all main bearings, connecting rods, Piston and Cam Shaft by Splash.
HORSE POWER..	24-28.	28-32.
MOTOR	4 Cylinder, cast in pairs, water cooled, 4" bore, 4" stroke.	4 Cylinder, cast in pairs, water cooled, 4 $\frac{1}{4}$ " bore, 4 $\frac{3}{4}$ " stroke.
PLATFORM DIMENSIONS...	10'x5'.	12' 6"x5'.
RADIATOR	Vertical Tube.	Vertical Tube.
SPEED.....	Maximum, 18. Minimum, 11 $\frac{1}{2}$.	Maximum, 15. Minimum, 11 $\frac{1}{2}$.
SPRINGS.....	Semi-Elliptic, front, and rear.	Semi-Elliptic, front, and rear.
TRANSMISSION...	Selective Sliding Gear, 3 speeds forward and 1 reverse.	Selective Sliding Gear, 3 speeds forward and 1 reverse.
TREAD.....	60 Inches.	60 Inches.
WHEEL BASE....	110 Inches.	124 Inches.



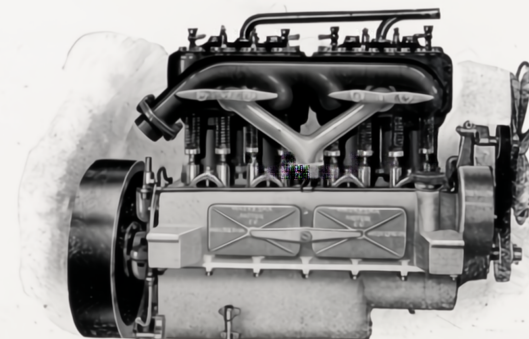
SPECIFICATIONS

TWO-TON-SPECIAL	THREE-TON	FIVE-TON
Front 2x2 $\frac{1}{4}$, rear 2 $\frac{1}{2}$ square.	Front 2 $\frac{1}{4}$ "x3 $\frac{1}{2}$ ", rear 3" square.	Front 2 $\frac{1}{2}$ "x3 $\frac{1}{2}$ ", rear 3 $\frac{1}{4}$ " square.
Foot Brake, External, contracting on jackshaft Emergency Brake. Internal in rear Sprocket Drum.	Foot Brake, External, contracting on jackshaft Emergency Brake. Internal in rear Sprocket Drum.	Foot Brake, External, contracting on jackshaft Emergency Brake. Internal in rear Sprocket Drum.
5000 Pounds.	6000 Pounds.	10000 Pounds.
Shebler or Stromberg.	Shebler or Stromberg.	Shebler or Stromberg.
Multiple Cone.	Multiple Cone.	Multiple Cone.
Vertical Flat Tube Radiator, Centrifugal Pump.	Vertical Flat Tube Radiator, Centrifugal Pump.	Vertical Flat Tube Radiator, Centrifugal Pump.
On Steering Column. Foot Accelerator.	On Steering Column. Foot Accelerator.	On Steering Column. Foot Accelerator.
Integral with Transmission. Spur Type.	Integral with Transmission. Spur Type.	Integral with Transmission. Spur Type.
Double Side Chains.	Double Side Chains.	Double Side Chains.
5250 Pounds.	6000 Pounds.	8000 Pounds.
Oil Dash and Tail Lamp. Set Tools.	Oil Dash and Tail Lamp. Set Tools.	Oil Dash and Tail Lamp. Set Tools.
Channel Steel. 5 in. 9 lbs. to ft.	Channel Steel. 5". 15 lbs. to ft.	Channel Steel. 6 in. 17 $\frac{1}{4}$ lbs. to ft.
22 Gallons.	22 Gallons.	22 Gallons.
Worm and Counterworm, 20" Wheel.	Worm and Counterworm, 20" Wheel.	Worm and Counterworm, 20" Wheel.
Magneto driven from pump shaft.	Magneto driven from pump shaft.	Magneto driven from pump shaft.
Force feed to all main bearings, Connecting Rods, Piston and Cam Shaft by Splash.	Force feed to all main bearings, Connecting Rods, Piston and Cam Shaft by Splash.	Force feed to all main bearings, Connecting Rods, Piston and Cam Shaft by Splash.
35-40.	35-40.	50-60.
4 Cylinder cast in pairs, water cooled, 4 $\frac{3}{4}$ " bore, 5" stroke.	4 Cylinder cast in pairs, water cooled, 4 $\frac{3}{4}$ " bore, 5" stroke.	4 Cylinder cast in pairs, water cooled, 5" bore, 6" stroke.
14'x5' 6".	15'x6'.	16'x6' 6".
Vertical Tube.	Vertical Tube.	Vertical Tube.
Maximum, 15. Minimum, 11 $\frac{1}{2}$.	Maximum, 14. Minimum, 11 $\frac{1}{2}$.	Maximum, 10. Minimum, 11 $\frac{1}{2}$.
Semi-Elliptic, front and rear.	Semi-Elliptic, front and rear.	Semi-Elliptic, front and rear.
Selective Sliding Gear, 3 speeds forward and 1 reverse.	Selective Sliding Gear, 3 speeds forward and 1 reverse.	Selective Sliding Gear, 3 speeds forward and 1 reverse.
60 Inches.	62 Inches.	68 Inches.
140 Inches.	140 Inches.	140 Inches.



REAR VIEW—EQUALIZING TRACTION BAR IN ACTION

A loaded HARDER TRUCK showing the equalizing bar in action. Note the even body lines, balancing the load under abnormal conditions, giving a like amount of traction to each driving wheel, making it impossible for one spring to carry more than its share of the load. This is one of the many features whereby the HARDER TRUCK IS FAR SUPERIOR to any truck of like price and equal to any Truck selling for \$1,000 to \$1,500 more.



ENGINE

The engine used in the Harder Auto Truck is our special design. After years of use and extraordinary tests we have found it to be the best engine made today.

Provision is made for lubricating every frictional surface under all conditions. The motor is fitted with self-contained force feed oiling system, having a reservoir cast on lower part of crank case, which holds a liberal supply of oil. The oil is pumped from reservoir to the crank case by means of a small gear pump, driven from lower end of vertical timer shaft, the excess oil draining back into reservoir through overflow pipes. The splash in the crank case is kept at proper level for sufficient lubrication of cylinders and all other parts.

Cooling is by water and circulation pump of centrifugal type. Located at the side of the motor, with double bearings, seamless brass tubing water pipe, the pump is provided with a drain cock, and fitted with extension, which drives magneto.

Simplicity in design of every part.

Easy accessibility to all parts.

The use of the best and most thoroughly inspected material only.

The best economy in gasoline in miles per gallon.

The best economy in lubrication in miles per gallon.

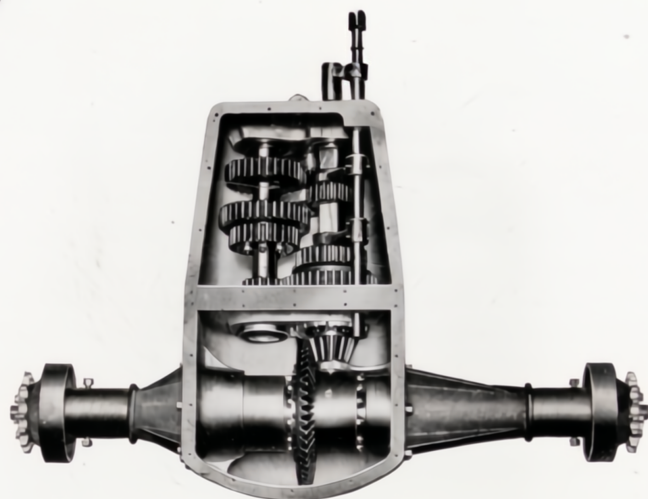
No ignition trouble.

Best lubricating system possible.

Excels in its cooling system, it being almost impossible to overheat the motor.

Features of this engine design adopted five years ago are now standard features of design today.

L-type cylinders properly offset.



NEW HARDER TRANSMISSION

SELECTIVE TYPE

The new Harder Transmission is of the selective type. Three speeds forward and one reverse. Change of gears can be accomplished without passing through a third gear.

The Harder Transmission is specially strong and of medium weight. Case is of aluminum cast in one piece and heavily ribbed. Equipped with heavy duty Hyatt Roller Bearings and annular ball bearings adjustable for end as well as radial wear.

SHAFTS—The driving shafts of the Transmission are $3\frac{1}{2}\%$ nickel steel, having a tensile strength of 100,000 pounds to the square inch, and are $2\frac{1}{4}$ " in diameter. Driving Shaft, and the driven shaft are constructed without keyways, or taper pin holes.

GEARS—Made of Chrome Nickel Steel, drop forged, and heat treated before machining. This steel has an extreme tensile strength, and elongation of 20%. All gears 4 pitch, $1\frac{1}{2}$ " face.

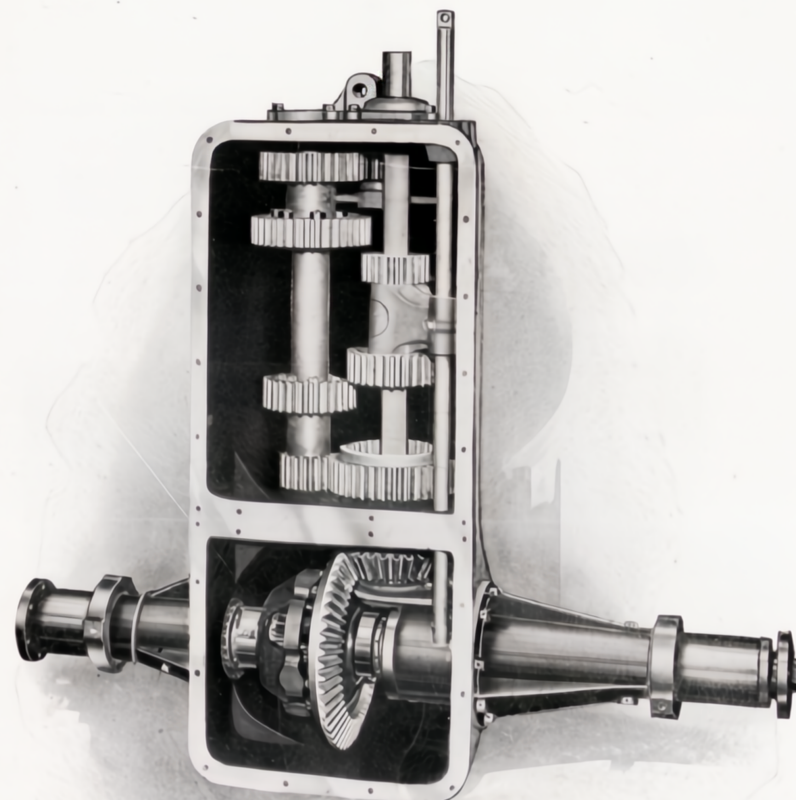
Sliding Gears are operated by locking bars, $\frac{7}{8}$ " diameter, of high carbon steel.

DIFFERENTIAL—Of the Spur Pinion Type, with a large factor of safety, and bevel gear drive is made of $3\frac{1}{2}\%$ nickel steel, oil tempered, and annealed, hardened and drawn in oil. The bevel pinion is 4 pitch, 15 teeth. The large bevel ring is of 4 pitch, 48 teeth.

JACKSHAFT—Made of $3\frac{1}{2}\%$ Australian Steel, oil tempered and annealed, $1\frac{1}{2}$ " diameter. Shaft square on ends, $1\frac{3}{16}$ " for the driving gears of the Differential, with a bearing at this point 2" long.

The outer ends of the Jackshaft run on Hyatt Heavy Duty Bearings, adjustable for wear.

All parts of the Gear Shifting apparatus are very heavy, and of the best possible material that is capable of withstanding the necessary stresses for the safe factor of overload. It does not offer any opposition to motor power.



HARDER TRANSMISSION

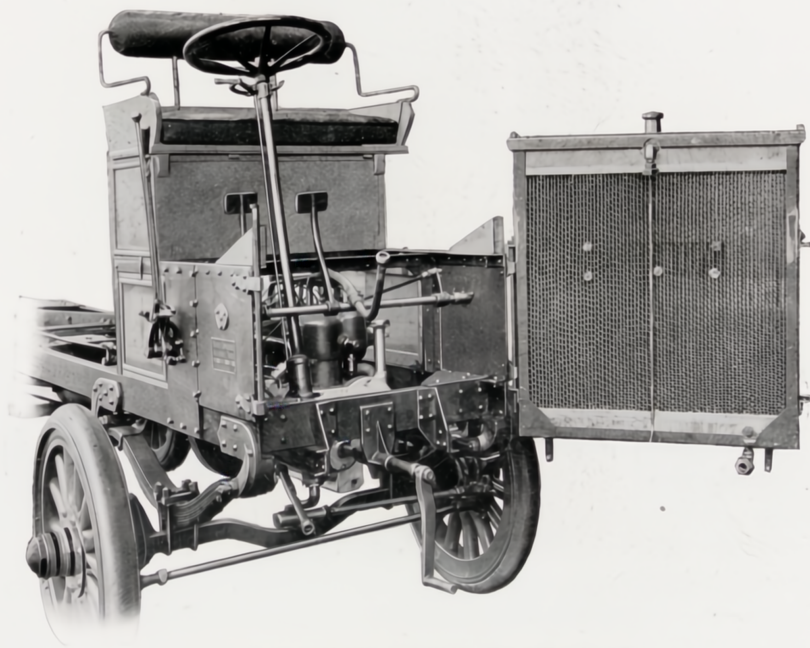
PROGRESSIVE TYPE

In a Truck transmission, strength, simplicity and durability are the main requisites, and these points are well covered in the above design.

The several speeds are controlled progressively by a single shifting rod, and high speed is obtained by clutching the sliding member into the driving spool. The driving bevels have four-pitch teeth and $1\frac{7}{8}$ " face.

DIMENSIONS

Length of case over-all, $43\frac{1}{8}$ ". Width of case proper, $17\frac{1}{4}$ ". Projection of main shaft, $2\frac{3}{4}$ ". Diameter of main shaft projection, $1\frac{3}{4}$ ". Keyway on main shaft projection, $\frac{1}{2} \times \frac{1}{16}$ ". Diameter of jackshaft, $1\frac{7}{8}$ ". Center of main shaft to outer face of jackshaft flange, $24\frac{1}{16}$ ". Diameter of jackshaft flange, $5\frac{1}{8}$ ". Diameter of bolt-circle, $4\frac{3}{8}$ ". Number and size of holes, $6\frac{1}{2}$ " ream. Center of main shaft to inner end of frame trunnion bearing on jackshaft housing, $16\frac{1}{4}$ ". Length of bearing, $6\frac{1}{8}$ ". Diameter of bearing, $3\frac{3}{16}$ ". Center of jackshaft to forward supporting bolt center, $34\frac{3}{8}$ ". Center of main shaft to forward supporting bolt center, $3\frac{7}{16}$ ". Diameter of hole supporting bolt, $\frac{1}{8}$ ".



ACCESSIBILITY TO ENGINE BY MEANS OF
HARDER HINGED RADIATOR

Engine Accessibility is another important advantage of the HARDER AUTO TRUCK, because it economizes on time by allowing immediate access to engine in two ways, by means of Harder Hinged Radiator and Side Doors.

The Harder Hinged Radiator swings outward—without emptying radiator—as shown in cut. The great value of this original and practical improvement will be readily understood and appreciated.



ACCESSIBILITY TO ENGINE BY MEANS
OF SIDE DOORS

In fact, the HARDER AUTO TRUCK design is such that there is no occasion to ever get underneath the car, as all inspection and adjustments can be accomplished from above. By means of the Harder Hinged Radiator, and side doors, you have immediate access to all parts of engine more readily than if engine was placed under hood.

The space otherwise used for seat only is now used to better advantage by placing engine under the seat. This feature gives more loading space and a more equal distribution of the load weight to each of the four wheels.



COMMON SENSE STEERING GEAR

The Automobile Industry has always needed a *steering gear* which would be strong, simple, of few parts, and reliable.

The HARDER AUTO TRUCK steering columns are beyond doubt of the best possible construction, both in workmanship and material. The large wearing surfaces, together with the proper arrangement of compensating locks, makes it possible to keep the parts always in perfect condition, thus insuring easy and perfect control through any weather or road conditions. In fact, with the large hand wheel, the Harder Trucks are as easily handled as the modern pleasure vehicles.

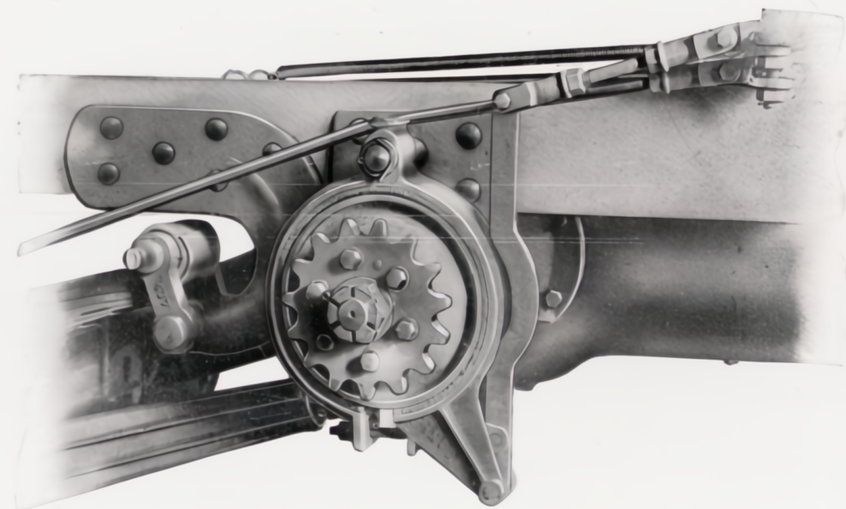
WHEELS

Wheels used throughout the whole line of Harder trucks have been designed to possess the greatest possible strength. Extra large spokes, extra heavy felloes, and the greatest care in selection of material are evident in every model.

The diameter of the hub flanges in proportion to the width of the spokes is a particular feature of the design. This provides great strength at the point where the spoke enters the hub.



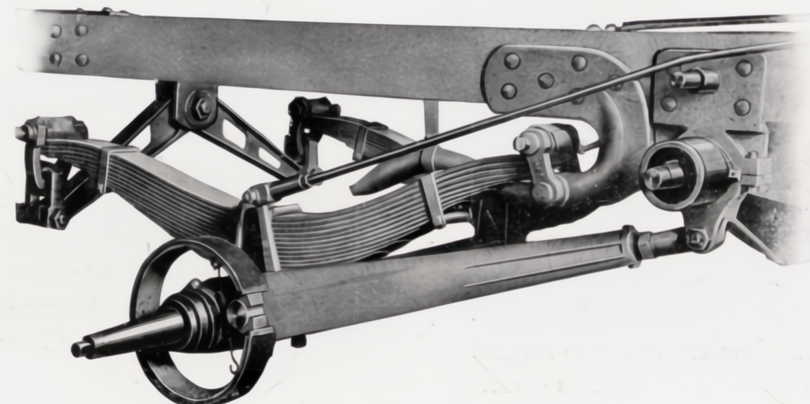
THE STRONG WHEELS OF THE HARDER



BRAKES

Brakes of the Harder Auto Truck are more than efficient, in fact the Service Brake is so powerful that without undue exertion it will lock the rear wheels. The Service Brake is of the external type braking on the jackshaft through the chains to the rear wheels. The Emergency brake is of the internal expanding one piece shoe type which is the most positive type known.

A third brake is added to the clutch to make gear shifting easy, avoiding the clashing of gears in making the shift.





Harder 1911 Models in Use



HUGO DU BROCK
CHICAGO



PYOTT FOUNDRY CO.
CHICAGO



SCHWEIZER COMMISSION CO.
CHICAGO



FRANK C. WEBER & CO.
CHICAGO



HAFNER FURNITURE CO.
CHICAGO



H. SCHULTZ & CO.
CHICAGO



Harder 1911 Models in Use



THE HEISSLER & JUNGE CO.
CHICAGO



WIZARD PRODUCTS CO.
CHICAGO



McAVOY BRG. CO.
CHICAGO



CEO. R. HAUPTMANN, No. 2
CHICAGO



MONARCH MFG. CO.
TOLEDO



MUTUAL SAUSAGE CO.
CHICAGO



Harder 1911 Models in Use

TOUSEY VARNISH CO.
CHICAGOI. S. HENKLE
CHICAGOT. S. REED GROCERY CO.
BEAUMONT, TEX.HARDER'S FIRE PROOF STORAGE & VAN CO.
CHICAGOJOURDAN SAUSAGE WORKS
CHICAGOPYOTT FOUNDRY CO.
CHICAGO

Harder 1911 Models in Use

HOME BAKERY
BERWYN, ILL.HEDDEN STORAGE
LOS ANGELES

FIVE OF THOSE IN USE BY HARDER'S FIRE PROOF STORAGE & VAN CO.

GEO. R. HAUPTMANN, No. 1
CHICAGOCHICAGO HIDE & TALLOW CO.
CHICAGO

GUARANTEE

WE GUARANTEE this vehicle against defective material and workmanship for one year from date of delivery. We will make free replacements of any defective parts f. o. b. factory. Tires are guaranteed by tire manufacturers and are not covered by this guarantee. No guarantee on chains, as chain manufacturers do not guarantee. This guarantee does not apply to any labor done outside our factories. All parts for claims under this guarantee must be returned to our factory, express or freight prepaid, properly tagged—for our inspection before credit can be allowed.

This guarantee does not cover any car that is overloaded, neglected, abused or damaged by an accident.

HARDER AUTO TRUCK COMPANY

CHAS. C. HARDER, President

